UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,673	07/08/2003	Jeffrey W. Moe	104874-142119	9826

7590 05/02/2006

Goodwin Procter LLP
599 Lexington Avenue
New York, NY 10022

EXAMINER	
DINH, TIEN QUANG	
ART UNIT	PAPER NUMBER
3644	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

MAILED

MAY 0 2 2006

GROUP 3600

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/615,673
Filing Date: July 08, 2003
Appellant(s): MOE ET AL.

Mr. Louis S. Sorell
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/15/06 appealing from the Office action mailed 3/8/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hom or Mnich et al in view of Dean et al.

Claimd 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hom or Mnich et al's system as modified by Dean et al as applied to claim 1 above, and further in view of Kugelman or Volkner et al.

(10) Response to Argument

The applicant's arguments center around the combination of Hom or Mnich et al in view of Dean et al and how the combination is invalid or there is no establishment of prima facie case of obviousness. The applicant clearly believed that since Dean et al teaches a "non-perforated layer", the ice protection system layer of Dean et al is not "acoustically permeable." The examiner respectfully disagrees. Acoustic is defined as "Of or relating to sound." Permeable is defined as "That can be permeated or penetrated". Taken together, "acoustically permeable" is

reasonable interpreted as sounds being able to penetrate a material. The applicant's arguments centers around "perforations" but clearly there is no claim as to the ice protection system having perforations. The claims call for the ice protection system being acoustically permeable. This can be interpreted as sounds being able to penetrate it. Looking from column 2 of Dean et al, the ice protection system of Dean et al has a thickness of .055 inches or less. Clearly this is a very thin ice protection system. Anyone skilled in the art would recognize that in the aircraft field, 100 decibels in sound is very common. To argue that the ice protection system of Dean et al is somehow not acoustically permeable to "hold" back sounds around this decibel level is a bit unbelievable. As a matter of fact, if the sounds are loud enough and have certain frequencies, sounds will have an easy time traveling through Dean et al's material. The examiner would also like to point out that in common life, a wall having no perforation do not prevent sounds that are loud enough from coming through the wall and into the room. In order to prove his point, the Examiner would like to submit two articles that he has found to show that sounds through walls without perforations are commonly well known. See Bruno Putzeys and Jeff Scott.

In conclusion, the Examiner believes that Deal et al teaches ice protection system that is acoustically permeable. The addition of ice protection systems to Hom or Minich et al's system as taught by Dean et al, would allow the ability to prevent dangerous ice formations.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

T. Dinh

Conferees:

PP PP

JWE JWE

Speed of Sound Through Different Substances

Does sound travel faster through a solid, a liquid, or a gas? Explain please.
- Patrice

This question that we previously answered on the speed of sound should answer your question as well. The second and third paragraphs, in particular, address the differences in the speed of sound through different substances. The quick answer is that the more densely packed the molecules of a substance are, the faster sound will travel through that substance. Therefore, sound travels fastest through a solid and slowest through a gas.
- answer by Jeff Scott, 15 September 2002

Read More Articles:

- Current Question of the Week
- Past Question Archive
- Most Popular Questions
- Search the Archive
- Submit a Question

Re: How does one deaden sound through walls?

Date: **Fri Jan 19 09:25:16 2001**
Posted By: **Bruno Putzeys, Staff, Electroacoustics and Analog Electronics, Philips ITCL**
Area of science: **Physics**
ID: **979056279.Ph**

Message:

Hello,

There are 2 main ways in which sound can make its way from one room into another:

1. Airborne. Through leaks (around doors, windows, air ducts). This is the main cause of sound leakage and is often underestimated. Have gaskets around doors and windows. Air ducts are tougher. Unless you can periodically close it, the duct should have a padded labyrinth in it - not something you can do in an existing building

2. Structure-borne. This means sound hitting a wall causing the wall to vibrate (i.e. a sound wave within the solid structure). Sound waves propagate much easier through solids than through air, which explains why sounds inside some buildings can be heard many floors up or down from the source. What decreases the sound level is the percentage of acoustic energy that makes it across boundary between media (air and solid). The larger the difference in mass between the media, the more difficult it will be for a sound wave to enter from one medium into another. Simply put: the heavier the wall, the better it will stop sound. As you can also see from the above reasoning it is more effective to have more than 1 transition, as energy is lost every time. This can be done using a double wall (optionally with padding in-between). Of course, the walls normally share a common base (all solid) through which some of the sound will still penetrate. If you really want this degree of isolation, a "room within a room" sitting on springs is the ideal solution. A somewhat expensive and impractical one.

In case of the glass wall, use two or three medium-thickness (0.2") sheets of glass with air spacing (0.4" to 2")between them. Make sure no humidity gets in-between there (nothing to do with the sound of course). Alternatively, use 2 double-glass windows fitted to either side of the wall.

Kind regards,

Bruno

Try the links in the MadSci Library for more information on Physics.

Query: [ ] Submit Query | Reset
